

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**Princeton Refinery
Calumet Lubricants Company, L.P.
Princeton, Bossier Parish, Louisiana
Agency Interest Number: 1224
Activity Number: PER20060002
Draft Permit 0400-00004-V4**

I. APPLICANT:

Company:
Calumet Lubricants Company, L.P.
10234 Highway 157
Princeton, LA 71067-9172

Facility:
Princeton Refinery
10234 Highway 157
Princeton, LA 71067-9172
Approximate UTM coordinates are 451.9 kilometers East and
3605.6 kilometers North, Zone 15
SIC Code: 2911

II. FACILITY AND CURRENT PERMIT STATUS:

Princeton Refinery distills crude oil to produce asphalt, lube oils and diesel. After desalting, light and heavy gas oil are separated by distillation in the temperature range of 150 to 750°F. Vacuum distillation is employed to separate heavier crudes into fractions. Lube stocks are sent to the Hydrocal unit for further treatment and refining.

One Part 70 permit addressing the facility has already been issued.

Permit #	Units or Sources	Date Issued
0400-00004-V3	Entire Facility	09/19/2005

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III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit application and Emission Inventory Questionnaire was submitted by Calumet Lubricants on June 19, 2006, as well as additional information dated April 27, 2007 and July 18, 2007, requesting a Part 70 operating permit renewal/modification.

Project Description

The proposed modifications of the facility are as follows:

1. Reconcile Tank Truck Loading (Emission Point 96-1) and Railroad Tank Car (Emission Point 96-2) to reflect actual unit operations;
2. Incorporate 40 CFR 60 Subpart UU stack test results for Asphalt Heater C (Emission Point 05-1);
3. Incorporate Wastewater Fugitive Emissions (Emission Point WWT-1) (106.39 tpy);
4. Incorporate PM emissions from the cooling tower;
5. Add one (1) white oil hydrotreater heater rated at 2.7 MM BTU/hr (Emission Point 07-1, twelve (12) tank heaters with total combined heat input of 16.8 MM BTU/hr (Emission Point 07-2), one (1) hydrogen plant heater (Emission Point 07-3), and PDA heater (Emission Point 07-4);
6. Add twenty-nine (29) storage tanks;
7. Increase emissions from tank truck loading (Emission Point 96-1), fugitive emissions (Emission Point 94-3), and wastewater fugitive emissions (Emission Point WWT-1);
8. Add two new Asphalt Tanks (Emission Points EQT277 and EQT278);
9. Add two 30,000 gallons Propane Tanks (Emission Points EQT279 and EQT280);
10. Delete Asphalt Heater A (EQT008:PH-18); and
11. Add ASPHALTCAP to cap emissions based on total production limitations and stack test data.

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Permitted Air Emissions

Estimated emissions in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM ₁₀	24.13	17.83	- 6.30
SO ₂	60.42	99.37	+ 38.95
NO _x	173.27	187.74	+ 14.47
CO	196.80	282.38	+ 85.58
VOC	255.15	386.87	+ 131.72*

*Increases of VOC (TAP) emissions from the White Oil/PDA/H2 Plant Project are (73.42 tpy); Emission Point WWT-1 (62.17 tons/yr) never permitted but existed at facility, and other remaining due to sources reconciled in renewal and associated emission changes.

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

<u>Pollutant</u>	<u>TPY</u>
Benzene	0.06
Carbon disulfide	0.002
Carbonyl sulfide	0.002
Cumene	0.01
Ethylbenzene	0.05
Hydrogen sulfide	0.002
n-Hexane	0.57
Naphthalene	0.0002
Xylene	0.33
Toluene	0.28
Sulfuric acid	0.62
Total	1.93

Regulatory Analysis

This permit was reviewed for compliance with the Louisiana Part 70 operating permit program, Louisiana Air Quality Regulations, New Source Performance Standards (NSPS), and NESHAP. Prevention of Significant Deterioration do not apply.

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Louisiana Air Quality Regulations and NSPS

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit, or Section X of the Air Permit Briefing Sheet. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the draft permit, or explained in Section XI of the Air Permit Briefing Sheet.

Prevention of Significant Deterioration Applicability

The Princeton Refinery is a major source of criteria pollutants. The increase emissions from this modification exceed the PSD significant emission rate of 40 tons per year ozone (VOC). Netting of VOC emissions has been conducted and resulted in the determination that no further PSD review is required.

PSD Netting Analysis – Volatile Organic Compounds

An initial review of the WO/PDA Project indicated that a significant emissions increase would result from the increased potential to emit. As a result, contemporaneous increases and decreases have been considered in the following analysis. For the netting analysis, the contemporaneous period has been identified as follows:

Contemporaneous Period

Proposed Start of Operation	03/29/08 (end of contemporaneous period)
Proposed Start of Construction	10/01/07
Five years Prior to Start of Construction	10/2/02 (begin contemporaneous period)

The contemporaneous period for the Calumet Project begins October 2, 2007. The VOC netting analysis shows that the project is not a major modification because the net emissions increase over the project's contemporaneous period is less than the significant net increase for VOC (40 tons/yr). Therefore, the project is not subject to NNSR review.

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Date	Project	Net Change (tpy VOC)
03/29/08	WO/PDA/H2 Project	73.76
11/06/2006	6 New Tanks (minor state permit)	0.01
09/30/2006	SRU/TGTU Addition (ATC)	Neg
09/19/2005	Asphalt Oxidizer Project (V3)	0.67
07/31/2003	Clay Plant Project (V2)	0.07
02/22/2003	V1 Title V Mod	2.13
12/28/03	V0 Title V Issuance (Ejector Vents to Flare)*	-69.81
	Net Change of Contemporaneous Period (tpy VOC)	6.84
	PSD Significant Emission Rate	40
*Date of physical change (i.e., construction and operation of flare)		

MACT Requirements

Princeton Refinery is a minor source of toxic air pollutants (TAPs) and hazardous air pollutants (HAPs). MACT is not required.

Air Modeling Analysis

Impact on air quality from the emissions of the proposed unit will be below the National Ambient Air Quality Standards (NAAQS) and the Louisiana Ambient Air Standards (AAS) beyond industrial property.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

IV. Permit Shields

A permit shield was not requested.

V. Periodic Monitoring

See Specific Requirements

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VI. Applicability and Exemptions of Selected Subject Items		
ID No:	Requirement	Notes
	See Tables X and XI of Air Briefing Sheet	

VII. Streamlined Requirements			
Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
N/A			

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Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

National Emission Standards for Hazardous Air Pollutants (NESHAP) – Toxic air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

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Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

PAI Pesticide Active Ingredient MACT – any facility that is subject to 40 CFR 63 Subpart MMM

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} - Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.